

Five Simple Machines Used in Daily Life

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Lever

Examples are: crowbars, hammers (specifically the back of hammers)

When force is applied to one end of the device, there is going to be motion on the other end of the device as well.

In terms of being used in robotics, it could be used in robotic arms and legs. Though, other things could be bottle openers, tweezers and tongs, and scissors.



Wedge

Examples: a knife, pizza cutter, axe

The wedge is often used to cut things and the force that you apply to it goes in a splitting direction, then it goes in right angles to the blade.

In robotic devices, the wedge may be used in robotic fighting. Robots are built so that they can fight to the “death” and incapacitate each other.



Wheel and Axle

Is a wheel and a central fixed axle combined, and it ensures that both must rotate together. A small force applied at the edge of the wheel is converted by rotation to a more powerful force at the smaller axle. This method can also be reversed.

Examples: steering wheel, screwdriver, motors

How the wheel and axle might be used in robotics is in cars (steering wheels, motors), and in DC motors (robots).



Screw

Some examples are: car jack, window winder, ends of lightbulbs, soda bottle lids

A threaded shaft that can be rotated, and it can be moved in either direction to be moved up or down. It's normally used to hold things in place, so it doesn't fall apart.

A screw can be used in robotic devices to hold the device in place and prevent it from falling apart / breaking.



Incline Plane

Examples are: ramp, staircase, waterslides, pipes

These are usually used to raise or lower really heavy objects, or if someone is on a wheelchair and can't get up the stairs, then they can go up the ramp.

How this can be implemented into a robotic device is in a truck, if a truck needs to be loaded with heavy things that aren't able to be lifted (cars for example), then an inclined plane can be used to get them into the truck. It may also be used in trucks to get rid of something, like rocks / dirt.

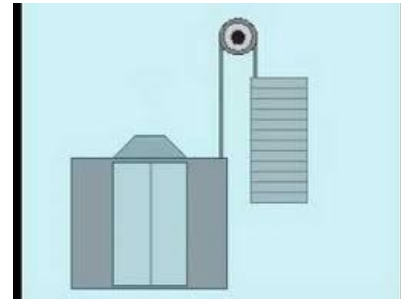


Pulley

Examples of a pulley are: block, curtain cord, elevators, wells

A pulley system is a rather basic system that uses attached cord/s that allows for a change in direction for the force applied to an object.

How a pulley system might be used in robotics is in an elevator. Elevators use multiple pulleys in order to function, because they need to lift heavy weights without breaking. These pulleys also use large metal cables.



Where I got my info!

<https://www.education.vic.gov.au/school/teachers/teachingresources/discipline/science/continuum/Pages/simpmachines.aspx#:~:text=Simple%20machines%20that%20are%20widely,to%20perform%20the%20overall%20task>.

<https://www.elevators.com/simple-machines-used-in-elevators/#:~:text=Pulleys%20with%20large%20metal%20cables,work%20to%20lift%20a%20load>.